

Shell Disease of Lobsters

Shell disease can be a disease of spectacular appearance in lobsters, depending on its form. Impoundment, burnt/rust spot and epidemic shell disease each have characteristic lesions. Significantly, none of the forms of shell disease is readily transmissible from one lobster to another: apparently shell disease is *not* an infectious disease.

Epidemic shell disease may be a newly emerging disease associated with global climate change. In New England, the prevalence of epidemic shell disease increases southwards along the coast of Massachusetts. The time-of-year, sex and size of the lobster influence the occurrence of epidemic shell disease. Occurrence is highest in May-June, prior to the major molt, and lowest in August when lobsters have new, clean shells. This form of disease is more common and severe in large, berried female lobsters, continuing at high (>50%) prevalence in berried females in eastern Long Island Sound. However, this aggressive form of shell disease is currently found in the Atlantic Provinces only at very low levels, with less than 1 lobster in every several thousands having lesions.

Surprisingly, pollution does not impact the location and severity of epidemic shell disease. However, what constitutes pollution is *not* well defined. Environmental contaminants, such as metals or pesticides for example, which are common in northeast Atlantic waters may adversely impact lobster health in a variety of ways. Similarly, other chemicals such as 'alkylphenols' which are from both natural and industrial sources in the marine environment, may interfere with shell formation and hardening, facilitating development of shell disease

Although movement patterns of lobsters are not affected by shell disease, lobsters with shell disease spend more time in shelters, are lethargic, feed less and have delayed molting. At present, long-term ecological impacts of behavioral changes are unknown.

Some of the Unanswered Questions About Shell Disease

Do invasive species carry pathogens from location to location?
Does bait impact lobster health? Does diet impact lobster health?
Does shell disease impact shell quality in postmolt lobsters?
Do environmental contaminants adversely impact shell formation?
Is there a genetic component to disease resistance among lobsters?
What is the trigger for shell disease?



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